

R E M A R K S

Claims 1-27 were pending in the application. Claims 16-24 have been withdrawn. Claim 28 has been added. Claims 1, 10, 13 and 25 are independent claims. No new matter has been added by this amendment.

Applicants respectfully submit that the present application is in condition for allowance. Accordingly, reconsideration and allowance of the present application are respectfully requested.

Claim Amendments

Claim 28 has been added. Support for claim 28 is found, for example, at one or more portions of page 4, lines 11-12.

No new matter has been added by this amendment.

Claim Rejections – 35 USC § 103

The Office Action rejects claims 1, 4, 6-9, 10, 12, 13, 15, 25 and 27 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/02132235 (Marshall et al.) in view of U.S. Patent No. 5,7334,654 (Gaur).

Reconsideration and withdrawal of the rejections are respectfully requested.

Claim 1

Claim 1 recites a method, comprising: receiving at a processing element a request to transmit a packet associated with a packet identifier; determining a number of transmit buffers to be associated with the packet; and arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold.

Neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests the method of claim 1.

Marshall et al. disclose a programmable packet classification system using an array of uniform content addressable memories (title). In the illustrated embodiment, the initial classification stage comprises a VLAN table (para 0012). The VLAN ID and destination port ID information associated with the packet are applied to the VLAN and port/channel tables, respectively, to generate a set of queue ID base pointers, packet field values, packet field valid values, and rules (para 0012). Information contained in the selected final state table entry is combined with the queue ID base pointers to generate the identifier, i.e., a queue ID, associated with the classified packet (para 0013). The classification engine 500 processes the packet including classifying the packet and determining a queue ID of a calendar queue 442 associated with the classified packet (para 0040).

However, Marshall et al. do not teach or suggest a method that includes the combination of determining a number of transmit buffers to be associated with the packet; and arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold.

For at least the reason above, Marshall et al. do not teach or suggest a method, comprising: receiving at a processing element a request to transmit a packet associated with a packet identifier; determining a number of transmit buffers to be associated with the packet; and arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold, as recited in claim 1.

Gaur disclose a method, system and program for processing data packets in packet buffers (title). FIG. 3 illustrates logic implemented in the device driver 18 to process transport packets 52 from the network adaptor 12, where the network protocol 14 processes the network packet 50 to unpack and access the transport packet 52 that is encoded according to the transport protocol (col. 3, lines 25-30). The device driver 18 allocates (at block 102) an available packet buffer 20 to store the received transport packet 52 (col. 3, lines 31-33). If (at block 104) the number of remaining available packet buffers 20 is below a minimum threshold, then the device driver 18 calls (at block 106) the transport protocol driver 22 to process and copy the content of the allocated packet buffer to a copy packet buffer 28 (col. 3, lines 33-37). If (at block 108) the

number of remaining packet buffers is greater than a medium threshold and if (at block 110) the packet size is less than a small packet size threshold, then control proceeds to block 106 to call the transport protocol driver 2 to process and copy the content of the packet buffer 20 (col. 3, lines 37-42). If the packet availability thresholds at blocks 104 and 108 and the packet size threshold at block 110 are not satisfied, then the device driver 18 calls (at block 112) the transport protocol driver 22 to process the allocated packet buffer 20 without copying the packet in the allocated packet buffer 20 to a copy packet buffer 28 (col. 3, lines 43-48).

However, Gaur does not teach or suggest that the number of remaining available packet buffers is a number of transmit buffers to be associated with the packet.

Thus, even if the number of remaining available packet buffers is viewed as a number of transmit buffers, as appears to be asserted in the Office Action, Gaur does not teach or suggest arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers (i.e., the number of transmit buffers to be associated with the packet) does not exceed a pre-determined threshold.

Consequently, as with Marshall et al., Gaur do not teach or suggest the combination of determining a number of transmit buffers to be associated with the packet; and arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold.

For at least the reasons above, neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests a method, comprising: receiving at a processing element a request to transmit a packet associated with a packet identifier; determining a number of transmit buffers to be associated with the packet; and arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold, as recited in claim 1.

The Office Action states that Gaur discloses arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold (citing figures 3-4 and col. 3, lines 43-46).

Applicants respectfully disagree.

Applicants respectfully note the cited portions of Gaur, which state, among other things, that if the packet availability thresholds at blocks 104 and 108 and the packet size threshold at block 110 are not satisfied, then the device driver 18 calls (at block 112) the transport protocol driver 22 to process the allocated packet buffer 20 without copying the packet in the allocated packet buffer 20 to a copy packet buffer 28 (col. 3, lines 43-48).

However, such statement does not teach or suggest arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the recited number of transmit buffers does not exceed a pre-determined threshold.

Applicants recognize that if the packet availability threshold at block 104 is not satisfied, then the number of remaining available packet buffers 20 is not below a minimum threshold (see col. 3, lines 33-37, which states that if (at block 104) the number of remaining available packet buffers 20 is below a minimum threshold, then the device driver 18 calls (at block 106) the transport protocol driver 22 to process and copy the content of the allocated packet buffer to a copy packet buffer 28).

Applicants also recognize that if the packet availability threshold at block 108 is not satisfied, then the number of remaining packet buffers is not greater than a medium threshold (see col. 3, lines 37-42, which states that if (at block 108) the number of remaining packet buffers is greater than a medium threshold and if (at block 110) the packet size is less than a small packet size threshold, then control proceeds to block 106 to call the transport protocol driver 2 to process and copy the content of the packet buffer 20).

However, Gaur does not teach or suggest that the number of remaining available packet buffers is a number of transmit buffers to be associated with the packet.

Consequently, stating that if the packet availability thresholds at blocks 104 and 108 and . . . are not satisfied, then the device driver 18 calls (at block 112) the transport protocol driver 22 to process the allocated packet buffer 20 without copying the packet in the allocated packet buffer 20 to a copy packet buffer 28 does not teach or suggest arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers (i.e., the number of transmit buffers to be associated with the packet) does not exceed a pre-determined threshold.

Moreover, stating that if . . . and the packet size threshold at block 110 are not satisfied, then the device driver 18 calls (at block 112) the transport protocol driver 22 to process the allocated packet buffer 20 without copying the packet in the allocated packet buffer 20 to a copy packet buffer 28 (col. 3, lines 43-48) also does not teach or suggest arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold.

For at least the reasons above, neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests a method, comprising: receiving at a processing element a request to transmit a packet associated with a packet identifier; determining a number of transmit buffers to be associated with the packet; and arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold, as recited in claim 1.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claim 10

Claim 10 recites an article, comprising: a storage medium having stored thereon instructions that when executed by a machine result in the following: receiving at a processing element a request to transmit a packet associated with a packet identifier; determining a number of transmit buffers to be associated with the packet; and arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold.

Neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests the article of claim 10.

At the very least, neither Marshall et al. nor Gaur, nor any combination thereof proposed in the Office Action teaches or suggests an article, comprising: a storage medium having stored thereon instructions that when executed by a machine result in the following: determining a number of transmit buffers to be associated with the packet and arranging for the packet to be transmitted through a port without storing the packet

identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold.

For at least the reasons above, neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests an article, comprising: a storage medium having stored thereon instructions that when executed by a machine result in the following: receiving at a processing element a request to transmit a packet associated with a packet identifier; determining a number of transmit buffers to be associated with the packet; and arranging for the packet to be transmitted through a port without storing the packet identifier in a local transmit queue if the number of transmit buffers does not exceed a pre-determined threshold, as recited in claim 10.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claim 13

Claim 13 recites an apparatus, comprising: an input path to receive a request to transmit a packet associated with a packet identifier; a local memory portion; and a processing portion adapted to arrange for the packet to be transmitted through a port without storing the packet identifier in the local memory portion if a number of transmit buffers to be associated with the packet does not exceed a pre-determined threshold.

Neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests the apparatus of claim 13.

At the very least, neither Marshall et al. nor Gaur teach or suggest an apparatus, comprising: a processing portion adapted to arrange for the packet to be transmitted through a port without storing the packet identifier in the local memory portion if a number of transmit buffers to be associated with the packet does not exceed a pre-determined threshold.

For at least the reasons above, neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests an apparatus, comprising: an input path to receive a request to transmit a packet associated with a packet identifier; a local memory

portion; and a processing portion adapted to arrange for the packet to be transmitted through a port without storing the packet identifier in the local memory portion if a number of transmit buffers to be associated with the packet does not exceed a pre-determined threshold, as recited in claim 13.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claim 25

Claim 25 recites a system, comprising: a backplane; a first line card connected to the backplane; and a second line card connected to the backplane, the second line card including a processing element having: an input path to receive a request to transmit a packet associated with a packet identifier, a local memory portion, and a processing portion adapted to arrange for the packet to be transmitted through a port without storing the packet identifier in the local memory portion if a number of transmit buffers to be associated with the packet does not exceed a pre-determined threshold.

Neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests the system of claim 25.

At the very least, neither Marshall et al. nor Gaur teach or suggest an apparatus, comprising: a processing portion adapted to arrange for the packet to be transmitted through a port without storing the packet identifier in the local memory portion if a number of transmit buffers to be associated with the packet does not exceed a pre-determined threshold.

For at least the reasons above, neither Marshall et al., nor Gaur, nor any combination thereof proposed in the Office Action, teaches or suggests a system, comprising: a backplane; a first line card connected to the backplane; and a second line card connected to the backplane, the second line card including a processing element having: an input path to receive a request to transmit a packet associated with a packet identifier, a local memory portion, and a processing portion adapted to arrange for the packet to be transmitted through a port without storing the

packet identifier in the local memory portion if a number of transmit buffers to be associated with the packet does not exceed a pre-determined threshold., as recited in claim 25.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Dependent claims

Claims 2-9 and 28 depend from independent claim 1 and therefore should be allowed for at least the reasons set forth above with respect to independent claim 1.

Claims 11-12, 14-15 and 26-27 depend from independent claims 10, 13 and 25, respectively, and therefore should be allowed for at least the reasons set forth above with respect to independent claims 10, 13 and 25, respectively.

C O N C L U S I O N

For at least the reasons set forth above, Applicants respectfully submit that the present application is in condition for allowance. Accordingly, reconsideration and allowance of the present application are respectfully requested.

Because the reasons set forth above are sufficient to overcome the rejections set forth in the outstanding Office Action, Applicants do not address some of the assertions set forth therein and/or other possible reasons for overcoming the rejections. Nonetheless, Applicants reserve the right to address such assertions and/or to present other possible reasons for overcoming the rejections in any future paper and/or proceeding.

If the Examiner believes that a telephone interview would expedite the prosecution of this application in any way, the Examiner is cordially requested to contact the undersigned via telephone at (203) 972-0006, ext. 1014.

Respectfully submitted,

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